

only and cannot depend from any other multiple dependent claim. The Examiner then indicated that Claims 6-9 have not been treated on the merits. Applicants respectfully submit, however, that the Examiner has apparently failed to consider Applicants' preliminary amendment. Indeed, Applicants submitted a preliminary amendment at the time of original filing of the present National Phase application on May 12, 2000 which, inter alia, amended Claim 6 to place Claim 6 in proper format. A copy of the preliminary amendment, together with the original transmittal letter of the National Phase Application to the U.S. Patent and Trademark Office, is attached as Exhibit B. The transmittal letter properly reflects the filing of the first preliminary amendment and the content of such preliminary amendment is set forth in Exhibit B. Unfortunately, it appears that the Examiner has mistakenly failed to consider the claims in the context of the first preliminary amendment. Applicants respectfully request the withdrawal of this objection and request consideration of Applicants' claims, as amended, by the preliminary amendment.

Drawing Objections

In the Office Action, the Examiner indicated that Figs. 1-4 should be designated by a legend such as -- Prior Art -- because only that which is old is illustrated. The Examiner requested that an appropriate drawing correction be effected. In response, Applicants have proposed the drawing corrections reflected in Exhibit A in order to comply with the Examiner's request. The proposed amendments are shown in red on the attached drawings of Figs. 1-4. Approval of such drawing corrections is respectfully requested.

Rejections under 35 U.S.C. §102

In the Office Action, the Examiner rejected Claims 1-3 and 10 under 35 U.S.C. §102(b) as being anticipated by Blanchard, U.S. Patent No. 5,629,929. Applicants respectfully request reconsideration of this rejection in view of the following comments.

Claims 1 to 3 and 10 are not anticipated by Blanchard. In Applicants' claimed system, a given CDMA signal is acquired by "correlating a part of the spreading code sequence relating to a signal to be acquired" in each of "a plurality of correlating means" as expressly set forth in Claim 1 and similarly set forth in Claim 10. A zero-padded FFT is applied to the output of the correlating means as further set forth in Claim 1 and similarly set forth in Claim 10.

The purpose of the architecture claimed in claims 1 and 10 is to find both the Doppler offset and the code phase of the incoming signal rapidly. The system allows recovery from both the timing and potentially large Doppler frequency offsets during the initial start up phase of a direct sequence CDMA system. Use of a zero-padded FFT reduces the scalloping loss, a loss in signal-to-noise ratio caused when using a standard FFT.

Blanchard's system does not disclose a plurality of correlating means, each for correlating a part of a spreading code sequence relating to one signal.¹ On the contrary, Blanchard's "correlators" (which perform multiplication in the frequency domain) are arranged in parallel, and each one operates on a different data stream, i.e., the system is a multichannel despreader (see Blanchard, column 1, line 66 to column 2, line 1; column 5 lines 35 to 37; column 8, lines 8 to 13). The aim is to achieve rapid interference cancellation. Zero-padded FFT's are used for rate matching. There is no teaching at all in Blanchard concerning the initial acquisition of a signal and the frequency and timing offsets that are addressed by Applicants' claimed invention.¹

It is therefore abundantly clear that the invention, as claimed in claims 1-3 and 10, is not only novel with respect to Blanchard, but involves an inventive step.

Objection Under 35 U.S.C. §103

As a final objection, the Examiner rejected Claims 4, 5, 11 and 12 under 35 U.S.C. §103(a) as being obvious over Blanchard and Grant. It appears to the undersigned attorney that the Examiner intended to indicate that such claims were obvious over Blanchard in view of Grant. In this regard, the specific rejections raised by the Examiner in connection with claims 4, 5, 11 and 12 all appear to rely on asserted combinations of Grant with Blanchard. Indeed, the Examiner concedes in connection with the analysis of Claim 4 that Blanchard does not disclose the chip length of a correlator being 25 or less.

In any event, Claims 4, 5, 11 and 12 are patentable over Blanchard for at least the same reasons discussed in connection with the patentability of Claims 1 and 10 over Blanchard. Furthermore, the Examiner's reliance on Grant, et al. as prior art is misplaced. Indeed, the paper by Grant et al cited by the Examiner was published in September 1998, whereas the present

application claims a priority date of 14th November 1997. Thus, Grant et al., is not proper prior art and cannot be relied upon by the Examiner. Applicants respectfully request withdrawal of this objection.

Conclusion:

For the foregoing reasons, Applicants submit that the Application is in condition for allowance. Early and favorable action is therefore solicited.

Respectfully submitted,
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